

CAROL JELLEY

Traffic Planner and Transport Engineer
Sinclair Knight Merz
Perth, Western Australia



For people who like to move around the world in their job, Carol Jelley is a fine example of what can be achieved.

Before joining Sinclair Knight Merz in Perth, Carol had worked in the UK, Trinidad, Nigeria, South Africa, Indonesia, Kuwait and finally Australia.

Her branch of engineering is transport planning and modelling which is nothing to do with building model cars. It's all about simulation of traffic conditions on a road system and forecasting what will happen given changes in population, employment, school locations, shopping centres, etc.

When Carol began studying this branch of engineering, computers were in their infancy but she was mentored by a brilliant transport engineer in her first job who encouraged her into the area of transport modelling and forecasting and building up skills that were in very short supply at that time.

"That was a very good beginning for me," Carol said. "When a lot of my colleagues were going into the more standard profession of traffic engineering I was very fortunate to go into the emerging profession of transport modelling using computer systems," she said.

"Of course in those days computers used a batch of cards which had to be typed up one by one and fed into the machine at one end and you'd wait six hours before you'd know if they had read them correctly."

"The era of using computers for transport modelling was in its infancy and I was extremely fortunate to go into a group which had one of the leading practitioners in that industry and work for him for the first couple of years."

Carol then joined a consulting organisation, Colin Buchanan and Partners, to work in public transport planning and modelling. "That was the start of world-wide travel over the next eight years working in England, Scotland, Trinidad, Nigeria, South Africa, Indonesia and finally Kuwait," she said.

“Transport engineering took me to Kuwait, which is a country I fell in love with and I left Colin Buchanan and Partners to join Kuwait Engineers Office, a consulting engineering company.” Carol stayed there for seven years before moving to Australia.

She joined Sinclair Knight and Partners (now Sinclair Knight Merz) as a transport planner and traffic engineer working on a variety of projects around metropolitan Perth and regional Western Australia.

Carol was promoted to Associate and then to Principal. “Whilst most of my time is spent working directly with our clients,” Carol said “a proportion of my time is spent in my role as transport planning sector leader, coordinating the transport planning and traffic engineering professionals working throughout our various international offices.”

When she was young, Carol and her brother were always inquisitive about how things worked. “We had Meccano sets and Scalextric slot car race track sets,” Carol said. “We used to pull things apart and put them back together. I was never a doll person.”

“I used to love jigsaw puzzles but I eventually got bored with them because I found I could do them so easily so I used to throw all the pieces in one big box and do six jigsaw puzzles simultaneously to make it more interesting.”

At university Carol did a BSc in civil engineering and then followed it straight away with a one-year Masters in transport planning and traffic engineering.

Carol believes engineering will give you the skills that you can take across the world if you want to or you can stay at home if you prefer. “Engineering allows you to problem solve so if you’re the sort of person who loves finding new solutions, engineering is an great career. It sets you challenges all the time, whatever branch of engineering you choose to go into whether it’s civil, mechanical, electrical, environmental or aeronautical.

“It’s solving challenges that really opens your mind,” she said. “Engineering is not a closed profession in that there’s no end point. Things are moving all the time. Things which appear to be the pinnacle of engineering excellence in one year are surpassed by new pinnacles of engineering excellence the following year,” she said.

“In a way I liken it to medicine as a career in that medicine is about problem solving and continuously moving forward. As society’s knowledge moves forward – you take that knowledge and you can solve more and more problems.

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“I think engineering is in that same vein in that you will continuously be provided with fascinating challenges throughout your life and you can make those challenges as large or as small as you wish.

“If you want to go to the Middle East, for instance, then you can because your skills will take you anywhere in the world. The skills you learn as an engineer are applicable in any country in the world.”

Carol believes that if you are a person who is inquisitive, who loves problem solving and who loves to look outside your own small world to a grander world, you should think about building a career in engineering.

She says mathematics is a fundamental of engineering. “It’s all about problem solving,” she said. “It’s about saying here is a series of numbers or a series of ideas and they are trying to tell me something and if I can understand what they’re trying to tell me then that is the fundamental of engineering.”

Carol would like to see more maths teachers in schools. “There aren’t enough who make maths fun,” she said. “Our challenge is to inspire students to continue maths until the latter end of their school careers and open up opportunities for exciting careers in engineering and science.”

Carol has been WA State President of Engineers Australia and has been on the National Council for Engineers Australia for the past four years.

“What I enjoy most is passing on my knowledge to young engineers using the skills and knowledge that I’ve developed in my career over the past 30 years,” Carol said. “So that’s my challenge over the next five or 10 years, to encourage young engineers to achieve the best out of their careers,” Carol said.

She is currently working with a team from Sinclair Knight Merz in Queensland and using her skills to train the younger professionals in transport planning particularly associated with hospitals.

Although she no longer does jigsaw puzzles, she still has that inquisitive mind that sets herself challenges and loves to solve them. It’s her recipe for being a successful engineer.